The Influence of Shoulder Protraction Correction to the Postural Stability

Abstract

This work is focused on postural stability from the view of physiotherapy and biomechanics. The basic theme was to find out to what degree the correction of shoulder protraction will influence the postural stabilization of modified tip-toe standing position. For this purpose was set up a special methodic for measuring and data evaluation.

Within filling the project of this work, there was suggested and performed a special method of measuring on 2 Kistler force plates, when 1 of the plates was fixed in ½ m. height from the ground on a special inclined construction. The angle of the plate with the ground contained 60º. There were 5 probands involved in the experiment (aged 20-30 years, having shoulder protraction without any pathology of these joints). The probands were separated up to 3 groups in compliance with the degree of shoulder protraction. Each proband was measured before and after the therapy on the 2 Kistler plates in an oblique tip-toe stand with one upper extremity leaned against the plate in 60º abduction. The Kistler plates were placed under the lower extremities and the one upper extremity and the measuring took 30 sec. on the left and 30 sec. on the right upper extremity.

The therapy took 30 minutes and it was based on the application of the hot roll, RI eventually myofascial techniques to the hypertonic muscles, on the active exercising of their antagonists with TheraBand and on using of taping roll for facilitation m. trapezius pars descendens.

The data evaluation was based on comparing of both measurements (before and after the therapy) for every proband. The outcomes of every single proband were comparing and there were found their shared characteristics.

Resulting from the outcomes, the changes in postural stabilization were explicit in 2 of 3 groups of probands. The 3rd group has not shown the explicit outcomes that could be evaluated by the measuring method we had used.

Key Words: Posture, Postural Stability, Shoulder Protraction, Kistler Force Plate